Scientific Areas of Integrated Review Groups (IRGs)

For a listing of the Scientific Review Officer and membership roster for each study section, click on the study section roster under the study section name within an IRG listed below or go to the study section index (study sections listed alphabetically) and click on the specified roster next to the name of the study section.

Immunology IRG [IMM]

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- Cellular and Molecular Immunology A Study Section [CMIA]
- Cellular and Molecular Immunology B Study Section [CMIB]
- Hypersensitivity, Autoimmune, and Immune-mediated Diseases Study Section [HAI]
- Immunity and Host Defense Study Section [IHD]
- Innate Immunity And Inflammation Study Section [III]
- Transplantation, Tolerance and Tumor Immunology Study Section [TTT]
- Vaccines Against Microbial Diseases Study Section [VMD]
- SBIR none HIV-Vaccine Development [IMM-K]
- Small Business Grant Applications: Immunology [IMM-G]
- Immunology Fellowships and Area Study Section [F07]

Cellular and Molecular Immunology A Study Section [CMIA]

[CMIA Membership Roster] [CMIA Meeting Rosters]

The Cellular and Molecular Immunology - A (CMIA) Study Section reviews applications concerned with understanding the molecular, structural, biochemical and biophysical aspects of immunology. The focus is primarily on the adaptive arm of the immune system but to some extent, the innate immune arm as well. The topics addressed include the following:

- the cellular, biochemical, structural and biophysical, and extra- and intracellular molecular events of T and B lymphocytes and other cells (dendritic and mast cells) involved in the adaptive and innate immune responses.
- cell\cell interactions, cell migration, signal transduction T and B cell receptors, costimulatory molecules, Fc high and low affinity receptors, cytokine and chemokine receptors.
- antigen processing and presentation, T cell receptor (TCR)\major histocompatibility complex (MHC)-peptide interactions.
- the mechanisms and regulation of VDJ recombination of TCR and immunoglobulin (Ig) genes, isotype switching and the somatic hypermutation of immunoglobulin genes.
- transcriptional, posttranscriptional, translational and posttranslational regulation of genes involved in lymphocyte development, differentiation, or response to environmental signals or cytokines.

Study sections with the most closely related areas of science listed in rank order are:

Cellular and Molecular Immunology Study Section B [CMIB]
Molecular Genetics A Study Section [MGA]
Molecular Genetics B Study Section [MGB]
Molecular Genetics C Study Section [MGC]
Macromolecular Structure and Function A Study Section [MSFA]
Macromolecular Structure and Function B Study Section [MSFB]
Macromolecular Structure and Function C Study Section [MSFC]
Macromolecular Structure and Function D Study Section [MSFD]
Macromolecular Structure and Function E Study Section [MSFE]
Innate Immunity and Inflammation Study Section [III]
Membrane Biology and Protein Processing Study Section [MBPP]

TOP

Cellular and Molecular Immunology B Study Section [CMIB]

[CMIB Membership Roster] [CMIB Meeting Rosters]

The Cellular and Molecular Immunology B Study Section reviews applications concerned with the function and structure of the adaptive immune system. Emphasis is on the activation, developmental, differentiation and interactions of the cells and organs of immune system on the molecular and cellular levels. The topics addressed include:

- molecular and cellular regulation during early and peripheral lymphoid cell development such as T cells, B cells, NK cells, NKT cells, regulatory T cells, and myelo/hematopoiesis and apoptosis involved during these processes.
- mechanisms of lymphoid repertoire formation during development, activation, differentiation and aging especially VDJ recombination in T cell receptor, B cell receptor and immunoglobulin (Ig) genes, isotype switching and somatic hypermutation of Ig genes.
- initiation and recall of adaptive immune responses, including antigen processing and presentation, interactions with innate immunity, signal transduction and transcriptional regulation in lymphocyte activation, and cytokine signaling and function.
- dynamics of the immune response, including homeostasis, regulation and memory in primary and secondary lymphoid organs (e.g. bone marrow, thymus, lymph nodes, spleen, liver, GALT).
- mechanisms of disorders during lymphocyte development, activation and differentiation that lead to immunodeficiency diseases.
- comparative immunology in non-mammalian animals.

Study sections with the most closely related areas of science listed in rank order are:

Cellular and Molecular Immunology A [CMIA]
Hematopoiesis [HP]
Cellular Mechanisms in Aging and Development [CMAD]
Hypersensitivity, Autoimmune, and Immune-mediated Diseases [HAI]
Transplantation, Tolerance, and Tumor Immunology [TTT]

TOP

Hypersensitivity, Autoimmune, and Immune-mediated Diseases Study Section [HAI]

[HAI Membership Roster] [HAI Meeting Rosters]

The Hypersensitivity, Autoimmune, and Immune-mediated [HAI] Diseases Study Section reviews applications concerned with basic, pre-clinical, and clinical investigations, involving autoimmune diseases, hypersensitivity and allergic diseases, asthma, primary and secondary states of immunodeficiency syndrome (non-AIDS), and inflammatory diseases. Emphasis is on the etiology, initiation, immunopathophsiology, prevention and treatment of diseases in which the immune system (innate and adaptive) is the major contributor. Approaches include human studies, in vitro studies of patient materials, animal models, and genomic and proteomic approaches to immune-mediated disease questions. Specific areas covered by HAI:

- Etiology of immune-mediated diseases: hormonal, developmental, environmental factors (infectious and non-infectious) and lifestyle factors, and genetic.
- Initiation of immune-mediated diseases: activation of innate and antigen specific responses, co-stimulators, cytokine regulation/polarization, regulatory cells and recruitment of inflammatory cells.
- Immunopathophysiology of immune-mediated diseases: the balance of effector and regulatory factors and cells as well as mechanisms of tissue damage leading to chronicity, remission or relapse, and genetic and exogenous factors modulating disease expression.
- Immune-mediated diseases arising as a consequence of aging.
- Treatment of immune-mediated diseases: antigen specific and non-specific drug and biologic approaches to tolerance to self or foreign antigens including vaccination, gene therapy, peptide and altered ligand approaches as well as cell-based approaches; development of biomarkers of disease and related activities, and outcome assessments in clinical studies; determinants of response to therapy.
- Prevention of immune-mediated diseases: identification of at-risk populations, immuno-epidemiology of genetic and environmental factors, and interventions aimed at altering the immune response so as to modify or prevent disease expression.

Study sections with the most closely related areas of science listed in rank order are:

Innate Immunity and Inflammation Study Section [III]
Transplantation, Tolerance and Tumor Immunology Study Section [TTT]
Cellular and Molecular Immunology - A Study Section [CMIA]
Cellular and Molecular Immunology - B Study Section [CMIB]
Arthritis, Connective Tissue and Skin Study Section [ACTS]
Clinical Neuroimmunology and Brain Tumors Study Section [CNBT]
Lung Cellular, Molecular Immunology Study Section [LCMI]

TOP

Immunity and Host Defense Study Section [IHD]

[IHD Membership Roster] [IHD Meeting Rosters]

The Immunity and Host Defense [IHD] study section covers the interface between the immune response and the microbial milieu. As such it reviews applications concerned with the innate and adaptive immune responses to a wide variety of pathogens and commensals, including viruses, bacteria, fungi, and parasites. Emphasis is on the innate, systemic and mucosal immune responses to these microbial organisms, in animal models and humans. Specific areas covered by IHD include:

- host-microbe interactions: innate and acquired host immune responses to specific pathogenic organisms including viruses, bacteria, fungi and parasites; host responses to commensal microbes; influence of host factors, including genetic predisposition or resistance to infection.
- innate immunity to microorganisms: cells, receptors, cytokines, chemokines, and soluble mediators that provide early protection from injury due to pathogens and their products or responses to commensal organisms. Innate immune cells including but not limited to NK cells, phagocytes, gamma/delta and NK T cells, B-1 cells, dendritic cells, and mast cells. Receptors including but not limited to molecules expressed by these cells engaged in innate immunity, including chemokine and other G-protein coupled receptors, Toll-like receptors, NK cell activation and inhibitory receptors, phagocytic receptors, pattern recognition receptors, Fc receptors, adhesion receptors, co-stimulatory molecules, and cytokine receptors.
- mucosal immunity: host immune responses in mucosal sites to specific pathogens, including viruses, bacteria, fungi and parasites and regulation by commensal microbes. Induction and modulation of mucosal immune responses. Comparison of mucosal immunity versus systemic immunity, differentiation of immune responses in the mucosa and peripheral lymphoid tissues, and immune cell migration to mucosal sites including inductive and effector sites.
- host defense: innate and acquired immune responses that protect the host from deleterious effects of pathogens, including basic mechanisms of immune responses to limit pathogen invasion and toxicity, and development of animal models of potential bioterrorism agents.
- immune response to vaccines and gene therapy agents: immune responses to vaccines, both vector and cell based vaccines and immune responses that limit the treatment through gene transfer, including response to gene therapy vectors and gene products.

Study sections with the most closely related areas of science listed in rank order are:

Innate Immunity And Inflammation [III]
Vaccines Against Microbial Diseases [VMD]
Hypersensitivity, Autoimmune, and Immune-mediated Diseases [HAI]
Clinical Research and Field Studies of Infectious Diseases [CRFS]
Lung Cellular, Molecular, And Immunobiology [LCMI]

TOP

Innate Immunity And Inflammation Study Section [III]

[III Membership Roster] [III Meeting Rosters]

The Innate Immunity and Inflammation study section reviews applications involving basic aspects of innate immunity and inflammation, including studies of soluble and cellular mediators of these processes. Specific areas covered by III:

- effector functions of innate immune cells (e.g., neutrophils, monocytes, macrophages, dendritic cells, NK cells, basophils, eosinophils, mast cells, gd T cells, B1 cells)
- pattern recognition receptors and ligands
- recruitment and activation of non-lymphocyte leukocytes
- structure, function, and release of anti-microbial peptides
- adhesion molecules, chemotaxis, endothelial responses
- cytokines, chemokines, lipid mediators, other autocoids, and their receptors
- animal and plant systems of innate immunity and inflammation
- systemic and tissue specific responses to inflammation
- regulation of adaptive immune responses
- initiation of host responses in skin, mucosal, and privileged sites
- complement and other soluble host defense proteins and their regulation
- immunodeficiencies involving the inflammatory and innate immune system

Study Sections with the most closely related areas of science listed in rank order are:

Immunity and Host Defense [IHD]
Host Interactions with Bacterial Pathogens [HIBP]

Cellular and Molecular Immunology A [CMIA]
Hypersensitivity, Autoimmune and Immune-mediated Diseases [HAI]
Vaccines Against Microbial Diseases [VMD]

TOP

Transplantation, Tolerance and Tumor Immunology Study Section [TTT]

[TTT Membership Roster] [TTT Meeting Rosters]

The Transplantation, Tolerance and Tumor Immunology (TTT) Study Section reviews applications involving the making and breaking of immune tolerance. This includes human and animal studies of immune-mediated transplant rejection, basic mechanisms of acquired immune tolerance, and studies of tumor immunology and vaccine development. Emphasis is on immune mechanisms. Specific areas covered by TTT:

- Transplantation: studies of transplant rejection when the major focus is on the immune response to the transplanted organ and immune mechanisms behind immunosuppressive drugs and therapies for prevention of transplant rejection; solid organ and hematopoietic transplant tolerance, in both small and large animal models as well as clinical studies and clinical trials; mechanisms of development and strategies for prevention of graft vs. host disease, including promotion of graft vs. tumor/leukemia effects.
- Tolerance: mechanisms of immune tolerance, both central and peripheral, using a variety of systems including engineered mice and tumor, autoimmune, or transplant models.
- Tumor Immunology: immune surveillance, mechanisms of immune evasion, or immune suppression in the tumor microenvironment, in both humans and animal models; identification of new tumor associated antigens; early stage development and testing of tumor vaccines in animal models.

Study sections with the most closely related areas of science listed in rank order are:

Cancer Immunopathology and Immunotherapy (CII)
Hypersensitivity, Autoimmune, and Immune-Mediated Diseases (HAI)
Cellular and Molecular Immunology A (CMIA)
Cellular and Molecular Immunology B (CMIB)
Innate Immunity and Inflammation (III)

TOP

Vaccines Against Microbial Diseases Study Section [VMD]

[VMD Membership Roster] [VMD Meeting Rosters]

The Vaccines against Microbial Diseases [VMD] Study Section reviews applications regarding the immune responses against pathogens other than HIV and the development of safe and effective vaccines against these pathogens. The science reviewed involves multiple approaches, namely immunological, molecular biological, biochemical, bioinformatic, genetic, structural biological, nano-technological, computational biological, and microarray technological. Specific areas covered by VMD are:

- Immunological characterization: antibody neutralization, B and T lymphocyte immune response; dendritic cell, mast cell and macrophages functions; mucosal immunity; cytokine and chemokine function; Fc receptors, Toll-like receptors, CD40 ligand; MHC and HLA molecules.
- Vaccine against various pathogens: gram positive, gram negative and other groups of bacteria; DNA, RNA viruses; parasites and fungi; bacterial toxins; subviral agents such as prions.
- Pathogenic components: identification of pathogenic components and polymorphisms; structure analysis; modification of pathogenic components; enhancement of antigenicity of pathogenic components.
- Vaccine development: adjuvants, conjugates, immunomodulators, platforms, DNA vaccine, peptide and protein vaccine, subunit vaccine, live-attenuated vaccine, plant based vaccine, optimization of vaccine delivery using vectors, plasmids and virus-like particles, nanoparticles, needle or needleless technology.
- Animal models and humans: small and large animal models; non-human primates; studies using pre-existing human samples; human pre-clinical and clinical assessment of protective immune response; evaluation of immunogenicity, protection, efficacy and safety; improvement of safety of existing vaccine.

Study sections with the most closely related areas of science listed in rank order are:

Immunity and Host Defense [IHD]
Innate Immunity and Inflammation [III]
Transplantation, Tolerance, and Tumor Immunology [TTT]
Host Interactions with Bacterial Pathogens Study Section [HIBP]
Pathogenic Eukaryotes Study Section [PTHE]

TOP

SBIR none HIV-Vaccine Development [IMM-K]

[IMM-K Roster]

The Immunologic Sciences Special Emphasis Panel ZRG1 IMM-K reviews grant applications from the small business community in the area of non-HIV microbial vaccine development for the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer Research (STTR) Programs. Applications from small businesses that address basic and applied studies in the design, development, production, and evaluation of candidate vaccines against microbial-caused diseases are appropriate for review in this panel. The applications should project the development of a product, process, service, or platform technology that can be developed as a commercial venture. ZRG1 IMM-K also reviews the adaptation or fabrication of vaccine delivery systems and adjuvant systems. The panel does not review grant applications proposing development of vaccines against HIV or AIDS. Specific areas covered by ZRG1 IMM-K are as follows:

- All types of vaccines against diseases caused by bacteria, fungi, viruses (except HIV), and parasites, including live attenuated viral/bacterial vaccines, inactivated whole-organism vaccines, subunit vaccines, recombinant protein-based vaccines, vector-based vaccines, polysaccharide vaccines, conjugate vaccines, DNA vaccines, synthetic vaccines, mimetic vaccines, plant-derived vaccines, combination vaccines, etc.
- Vaccine design: antigen selection, epitope selection and design, use of adjuvant, use of vectors and chimeric carriers, vaccine formulation.
- Vaccine evaluation: immunogenicity, efficacy, safety, longevity, and use of animal models.
- Vaccine delivery systems: bacterial and viral vectors, chimreic vaccine carriers, liposome, nanoparticles.
- Adjuvants for specific vaccines.
- Vaccine production: production methodologies, process development/optimization/scale-up, GMP production and clinical material manufacturing.
- Other vaccine technologies, e.g. vaccine storage stability, pathogen inactivation methodologies, new cell substrates to produce vaccines.

IRGs with the most closely related areas of science listed in rank order are:

Infectious Diseases and Microbiology [IDM] IRG
Musculoskeletal, Oral and Skin Sciences [MOSS] IRG
Oncology 1 - Basic Translational IRG
Oncology 2 - Translational Clinical IRG
Cardiovascular and Respiratory Sciences IRG
AIDS and Related Research [AARR] IRG

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Small Business Grant Applications: Immunology [IMM-G]

[IMM-G Roster]

The Immunology Integrated Review Group (IRG) Special Emphasis Panel ZRG1 IMM-G (10) B reviews Small Business Innovation Research (SBIR) and the Small Business Technology Transfer Research (STTR) grant applications from the small business community in the area of basic immunology. Applications from small businesses which address basic and applied immunology, immunologic therapies, and diseases of immunologic origin are appropriate for review. These applications should project the development of a product, process, or service towards a commercial venture. Specific areas covered by this group:

- Antibodies: polyclonal, monoclonal, isolation, selection, characterization, development, production, processing, xenogeneic systems.
- Immunoassays and immunologic markers: reagents, development, for transplantation, for infectious diseases, for neoplastic diseases, for autoimmune diseases.
- Immunotherapeutic regimens: for transplantation, for bacterial, viral and fungal infectious diseases, for neoplastic diseases, for autoimmune diseases including allergy, asthma, diabetes, muscular sclerosis, systemic lupus erythematosus, rheumatoid arthritis, myasthenia gravis, glomerulonephritis.
- Cellular immune system: reagents for identification, characterization, and modulation of B lymphocytes, T lymphocytes, dendritic cells, eosinophils, stem cells, bone marrow, lymph nodes, mast cells, antigen-presenting cells, cytotoxic cells.
- Innate immune system: reagents for identification, characterization, and modulation of complement, monocytes, macrophages, neutrophils, basophils, natural killer cells.
- Immunomodulation of the immune system interactions: suppression, enhancement, biologics including cytokines, small molecules, proteins/peptides.

IRGs with the most closely related areas of science listed in rank order are:

Infectious Diseases and Microbiology IRG
Oncology 1 - Basic Translational IRG
Oncology 2 - Translational Clinical IRG
Endocrinology, Metabolism, Nutrition, and Reproductive Sciences IRG

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Immunology Fellowships and Area Study Section [F07]

[F07 Roster]

F07 reviews fellowship applications where the focus is an understanding of the role of the immune system in the host interaction with infectious agents, tumor cells, transplanted cells, self-components, the conceptus/fetus, allergens, and with substances encountered through environmental exposure. Examples of specific areas covered are listed below:

- Mechanisms, prevention, and treatment of diseases when the immune system has a major role
- Evolution, comparative biology, development, structure, aging, and malfunction of the immune system
- Molecular, cell, organ, and organismal biology of the immune system
- Biophysical and structural analysis of antigens and immune system products and components
- Interaction of the immune system with other organs, such as the nervous and endocrine systems
- Participation in immunity by non-lymphohematopoietic tissues and cells, such as epithelia
- Clinical development of vaccines and monoclonal antibodies for immunotherapy

IRGs with the most closely related areas of science listed in rank order are:

F13 (Infectious Diseases and Microbiology) IRG
F09 (Oncological Sciences) IRG
F05 (Cell Biology) IRG
F08 (Genes, Genomes and Genetics) IRG
F06 (Endocrinology, Metabolism, Nutrition and Reproductive Sciences) IRG

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